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**THE EOCENE MOLLUSCA OF THE STATE OF TEXAS.**

BY PROFESSOR ANGELO HEILPRIN.

The following list embraces, so far as I know, all the Eocene Mollusca that have thus far been noted to occur in the Gulf deposits of the State of Texas. For my data I have used the type series of Gabb and Conrad, the major portion of which is in the possession of the Academy of Natural Sciences of Philadelphia, the extensive collection of the State Geological Survey, and minor collections which have from time to time reached the Academy and been reported upon in its publications. The collections of the State Geological Survey (for the use of which I am indebted to the Director, Mr. E. T. Dumble, and to Dr. R. A. F. Penrose, Jr., the geologist of the Tertiary areas of the State) are by far the most extensive, and they serve to definitely locate the formations whence the fossils were obtained in their true position in the geological scale. Of some 145 species here enumerated (including a few doubtfully determined forms) about 61 (or upwards of 40 per cent.) are also members of the Claiborne fauna of Alabama; these I have indicated by prefixing an asterisk. A few others occur in some of the older deposits of Alabama, while a very few are members of the Mississippi (newer) fauna. The recurrence of a large number of the species in various counties and localities indicates that the horizon is a common one, namely: the Claibornian, or typical Middle Eocene of the Gulf slope, the equivalent of the Calcaire Grossier of the Paris Basin.

The principal localities whence the fossils were obtained are: Cherokee Co., near Alto and McBee's School; Palestine, in Anderson Co.; Robertson Co., near Wheelock; Milam Bluff in Milam Co.; Burleson Shell Bluff in Burleson Co.; Smithville, Devil's Eye, Bombshell Bluff and "Camp Disaster," in Bastrop Co.; Caldwell Co.; Atascosa Co.; Laredo, in Webb Co.; and Stations 1-5 on the Rio Grande River, included between Carrizo and "Cardita Bluff," in the northwestern corner of Webb Co.

In my references to Conrad's descriptions I have intentionally referred in some cases to the first edition of the "Fossil Shells of the Tertiary Formations" (abridged F. S. T.), and in others by preference to the second edition, where many of the forms are more completely diagnosed or illustrated than in the original edition.

**CEPHALOPODA.**

**Belosepia ungula**, Gabb. Jour. Acad. Nat. Sci., 2d Ser., iv, p. 376.  
Wheelock, Smithville.

**Nautilus** sp.?  
Milam Bluff, Brazos R.

**GASTEROPODA.**

\* **Conus sauridens**, Conr. F. S. T., 2d ed., p. 38.  
? **Conus gyratus** Morton.—Org. Rem. Cret. Group, p. 49 (from a  
cast.)

Devil's Eye; San Antonio F.; Smithville; Caldwell.

**Pleurotoma alveata**, Conr.  
? **P. persa**, Whitfield.—A. J. Conch., I, p. 262.

**P. capax**, Whitf. A. J. Conch., I, p. 261, Alabama.

\* **P. denticula**, Basterot. Descrip. Géol. Bass. Ter. Sud-ouest de la France, 1825,  
p. 63.  
**P. nodo-carinata**, Gabb (in part.)

\* **P. (Moniliopsis) elaborata**, Conr. F. S. T., 2d ed., p. 52.  
**P. cancellata**, H. C. Lea.—A. J. Science. XL, p. 98.  
? **Turris retifera**, Gabb.—Jour. Acad. Nat. Sci. Phila., 2d ser.,  
IV, p. 379.  
Wheelock.

**P. platysoma**, Heilpr. Proc. U. S. National Museum, 1880, p. 150.  
Atascosa Co.

**P. Tuomeyi**, Aldrich. Bulletin Geol. Survey Alabama, I, p. 31.  
Devil's Eye.

**Drillia Texana**, Conr. A. J. Conch., I, p. 143.  
Wheelock.

\* **Surcula Desnoyersii**, Lea. Contrib., p. 135.  
Smithville.

**S. Gabbii**, Conr. A. J. Conch., I, p. 142.  
Smithville, San Antonio F.

**S. Kelloggii**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 379.  
Wheelock.

\* **S. lintea**, Conr. A. J. Conch., I, p. 142.

**S. Moorei**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser. IV, p. 379.  
Smithville, Wheelock.

\* **S. nodo-carinata**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 379.  
Devil's Eye, Wheelock.

**S. Texana**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 379.

**Turris Moorei**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 378.  
Smithville, Caldwell.

**Exilia pergracilis**, Conr. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 291.

**Cochlespira engonata**, Conr. A. J. Conch., 1, p. 142.

*Turris cristata*, Gabb (*non* Conrad), Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 378.  
Caldwell.

**C. bella**, Conr. A. J. Conch., 1, p. 210.

**Cordia Texana**, Conr.  
Smithville, Ala.

**Eucheilodon reticulata**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 380.

? *Scobinella (?) læviplicata*, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 380 (imperfect specimen).  
Wheelock; Caldwell.

**Scobinella crassiplicata**, Gabb. Jour. Acad. Nat. Sci. Phila. 2d ser., IV, p. 380.  
Wheelock.

\* **Murex Vanuxemi** Conr. A. J. Conch. 1, p. 210.  
Smithville.

? **M. (Odontopolys) compsorhytis**, Gabb. Jour. Acad. Nat. Sci. Phila. 2d ser., IV, p. 377.  
Wheelock.

I have seen no specimen of this poorly figured species, and am unable to pronounce upon its generic position.

\* **Rostellaria (Calyptraphorus) velata**, Conr. F. S. T., 2d ed., p. 38.

*Rostellaria staminea*, Conr.—Proc. Acad. Nat. Sci. Phila., VII, p. 260.

*R. Lamarckii*, Lea.—Contrib., p. 158. *Et ead. R. eburnea*? Conr.  
Near Alto.

**Persona (Distorsio) septemdentata**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 380.

Devil's Eye; Caldwell; Wheelock; Lee.

**Clavella Penrosei** Heilpr. Proc. Acad. Nat. Sci. Phila., 1890, p. 405.  
Station 2.

**Clavella ?enterogramma** Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 378,  
as *Neptunea*. Aldrich, Bulletin Geol. Survey, Alabama, 1, p. 24.  
Alabama.

\* **Fusus salebrosus**, Conr. F. S. T., 2d ed. p. 56. (*Turrispira*).  
Smithville.

\* **F. trabeatus**, Conr. F. S. T., 2d ed., p. 53 (*Levifusus*).

*F. bicarinatus*, Lea.—Contrib. p. 146.

Caldwell; San Antonio F.

**F. (Strepsidura ?) Marnochi** Heilpr. Proc. U. S. National Museum, 1880, p. 151.  
Atascosa Co.

**Fusus pagodæformis**, Heilpr. Proc. Acad. Nat. Sci. Phila., p. 375.  
Smithville.

**Fusus Mortoniopsis**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 377.  
Wheelock; Caldwell.

- \* ? *Strepsidura* (*Muricea* ?) *bella*, Conr. F. S. T., 2d ed., p. 56.  
*Fusus crebrissimus*, Lea.—Contrib., p. 147.  
 Smithville.

- \* ? *Bulbifusus inauratus*, Conr. F. S. T., 2d ed., p. 53.  
*Fusus Fittonii*, Lea.—Contrib., p. 150.  
*F. parvus*, Lea.—Contrib., p. 151.  
*F. minor*, Lea.—Contrib., p. 151.  
 Alum Creek Bluff.

Only a fragment, which shows a partial costation; in this character it agrees more closely with the *B. ficulneus* of Lamarck, which the species may prove to be.

- Latirus* (*Cordiera*) *Moorei*, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 382.  
 Wheelock; Caldwell.

- ? *L. (Cordiera) Texana*, Conr.  
 Specimen in Museum—description?  
 ? *Cordiera gracilis* of Smithsonian Check List.

This species differs from the above in the prominence of its revolving lines; the type is, however, founded on a single imperfect specimen, which scarcely permits of characterization.

- Fusimitra polita*, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 382, as *Fasciolaria*.  
 Caldwell.

Differs from *Mitra minima*, of Lea (Contr. p. 168) in being much more elevated and slender.

- F. exilis*, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 383.  
 Wheelock.

- Mitra* sp?  
 Devil's Eye.

- \* *Fusimitra lineata*, Lea. Contrib., p. 168.  
 Wheelock.

- Lapparia dumosa*, Conr. Proc. Acad. Nat. Sci. Phila., VII, p. 260.  
*Lapparia Mooreana*, Gabb.—Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 383.  
 Smithville; Caldwell; Wheelock; Mississippi.

This species is distinct from *Lapparia pactilis*, Conr., from Claiborne, Ala.

- Caricella reticulata*, Aldrich. Journ. Cincinnati Soc. Nat. History, July, 1885.  
 Smithville, Ala.

- Volutilithes petrosa*, Conr. F. S. T., 2d ed., p. 41.  
*Voluta Vanuxemi*, Lea.—Contrib., p. 173.  
*V. impressa*, Conr.—A. J. Conch., 1, p. 144.  
*V. indenta*, Conr.—A. J. Conch., 1, p. 144.  
*V. symmetrica*, Conr.—Proc. Acad. Nat. Sci. Phila., VII, p. 260.  
*V. dumosa*, Conr.—Wailes' Geol. Rept. Mississippi, pl. XVI, fig. 1.

Devil's Eye ; Alum Creek B. ; San Antonio F. ; Smithville ; Lee Co. ; Miss.

\* **V. Sayana**, Conr. F. S. T., 2d ed., p. 41.

*Voluta DeFrancii*, Lea.—Contr., p. 171.

*V. gracilis*, Lea.—Contr., p. 172.

Well at Palestine, Anderson Co.

**V. precursor**, Dall. Trans. Wagner Free Ins. Science, Phila., III, p. 84.  
Wheelock.

\* **Marginella semen**, Lea. Contr., p. 178.

*Marginella (Erato) seminoides*, Gabb.—Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 383.

*Oliva minima*, Lea.—Contr. p. 184.

Wheelock ; Caldwell.

I see no character by which to separate *M. seminoides* from *M. semen*. The species is not, as Conrad assumed, the young of *M. larvata*.

**Cancellaria (Admete ?) ellapsa**, Conr. A. J. Conch., 1, p. 212.

\* **Cancellaria tortiplica**, Conr. A. J. Conch., 1, p. 145.  
Smithville.

This species is probably identical with Brander's *C. (Buccinum) evulsa*, from the Barton (Upper Eocene) deposits of England (*C. evulsa*, Sowerby—Min. Conch., IV, p. 84.—See my "Contributions to the Tertiary Geology and Palæontology of the United States," p. 93, 1884.)

**C. impressa**, Conr. A. J. Conch., 1, p. 145.  
Smithville ; Alabama.

\* **C. plicata**, Lea. Contr., p. 139.

*Cancellaria lirata*, Conr., A. J. Conch., 1, p. 145.

Caldwell.

The occurrence of this species in Texas rests on Gabb's identification ; his label still remains in the Academy collection, but the specimen belonging to it is lost. The same is true of the species following.

\* **C. gemmata**, Conr. F. S. T., 2d ed., p. 144.

*Cancellaria Babylonica*, Lea.—Contr., p. 138.

Caldwell.

\* **Oliva bombylis**, Conr. F. S. T., 2d ed., p. 42.

*Oliva constricta*, Lea.—Contr., p. 182.

Caldwell.

\* ? **O. gracilis**, Lea. Contr., p. 182.

I suspect that this is the young of *Oliva Alabamensis* of Conrad, F. S. T., 2d ed., p. 41.

\* **Olivula staminea**, Conr. F. S. T., 1st ed., p. 25 as *Ancillaria*.  
Smithville.

**O. punctulifera**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 381.  
Wheelock.

Also at Claiborne, Ala., according to Gabb.

? **O. Texana**, Conr. A. J. Conch., 1, p. 143, as *Tortoliva*.

I have seen no specimen of this species, and am in doubt as to its true position.

**Monoptygma crassiplica**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser. IV, p. 384,  
from Conrad's Mss.  
Wheelock.

**Ancillaria ancillops**, Heilpr. Proc. Acad. Nat. Sci. Phila., 1890, p. 406.  
Smithville; Alum Creek B.

**Pseudoliva carinata**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 381, from  
Conrad's Mss.  
San Antonio F.; Caldwell; Wheelock.

**P. fusiformis**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 381 from Conrad's  
Mss.  
*Pseudoliva filiformis*? Conr., of Smithsonian Check List.  
Smithville; Wheelock.

\* **P. sulcata**, Lea. Contr., p. 163, as *Monoceros*.  
*Pseudoliva linosa*, Gabb.—Jour. Acad. Nat. Sci. Phila., 2d ser.,  
IV, p. 381, from Conrad's Mss.

\* **P. venusta**, Cour. F. S. T., 2d ed., p. 37.  
*Monoceros pyruloides*, Lea.—Contr., p. 161.  
*M. fusiformis*, Lea.—Contr., p. 162.  
Station 3; White Marl B.

**P. perspectiva**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 381, from Con-  
rad's Mss.  
*Gastridium vetustum*, Conr., in Wailes' Rept. Geol. Mississippi,  
pl. 17, fig. 4.  
Smithville; Mississippi.

\* **Lacinia alveata**, Conr. A. J. Science, XXIII, p. 344.  
*Melongena alveata*, Conr. F. S. T., 2d ed., p. 37.  
*Pyrula Smithii*, Lea.—Contr., p. 155.

\* **Euthria (Lævibuccinum) prorsum**, Conr. F. S. T., 1st ed., p. 45.  
*Buccinanops prorsum*, D'Orb., Prodrome, II, p. 369.  
Station 2.

\* **Terebra venusta**, Lea. Contr., p. 167.  
*Terebra perlata*, Conr.  
Smithville.

**T. plicifera**, Heilpr. Proc. U. S. National Museum, 1880, p. 151.

\* **F. polygyra**, Conr.  
Labelled specimen.—Description?

\* **Terebrifusus amœnus**, Conr. F. S. T., 1st ed., p. 45.  
*Terebra gracilis*, Lea.—Contr. p. 166.  
*Buccinanops amœnum*, D'Orb., Prodrome, II, p. 369.  
*Terebra multiplicata*, H. C. Lea.—A. J. Science, XL, p. 101.  
Smithville.

This genus or group, of whose exact position I am ignorant, recalls both *Buccinum* and *Terebra*; it is seemingly closely related to, if not identical with, *Genea* of Bellardi (*Molluschi Terreni Terziari del Piemonte*, 1873, part 1, p. 205.)

**Buccitriton Texanum**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 381, as *Phos*.

*Buccitriton altum*, Conr.—A. J. Conch., i. p. 211.

? *Ragenella Texana*, Conr.—A. J. Conch., 1, p. 21.

Sta. 3; Caldwell; Wheelock; St. Augustine.

**B. scalatum**, Heilpr. Proc. Acad. Nat. Sci. Phila., 1890, p. 405. Smithville.

Dr. Dall, in his report on the "Tertiary Mollusks of Florida" (Trans. Wagner Free Inst. Science, III, 1890, pp. 134–35), refers *Buccitriton sagera*, Conr. to *Phos* and *B. altum*, Conr. and *B. Texanum*, Gabb, to *Nassa*. I see no good reason for generically separating the species. The group appears to me to be neither *Phos* nor *Nassa*.

\* **Pyrula nexilis**, Lam. Anim. Sans. Vertèbr., 2d ed., III, p. 688.

*Pyrula penita*, Conr.—F. S. T., 1st ed., p. 32.

*P. cancellata*, Lea.—Contr., p. 154.

*P. elegantissima*, Lea.—Contr. p. 155.

*Ficopsis penitus*, Conr.—Smithsonian Check List, 1866. Smithville.

**Natica (Neverita) arata**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 384. Alum Creek; Caldwell; Wheelock.

† **N. Moorei**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser. IV, p. 384. Caldwell.

I have seen no specimen answering to Gabb's figure or description; the specimen marked in his hand-writing as the "type" of this species is *Natica minor*, of Lea.

**N. Dumblei**, Heilpr. Proc. Acad. Nat. Sci. Phila., 1890, p. Station 2.

\* **N. minor**, Lea. Contr., p. 107.

*Natica minima*, Lea.—Contr., p. 107.

*N. semilunata*, Lea.—Contr., p. 108. Smithville.

\* **Natica limula**, Conr. F. S. T., 1st ed., p. 46.

*Natica mamma*, Lea.—Contr., p. 109. Smithville.

\* **Sigaretus canaliculatus**, Sowerby. Mineral Conchology, IV, p. 115.

*Sigaretus bilix*, Conr.—A. J. Science, XXIII, p. 344.

*S. declivus*, Conr.—F. S. T., 1st ed., p. 45.

*S. declivus*, Conr.—A. J. Conch., VI, p. 314.



*S. Mississippiensis*, Conr.—Jour. Acad. Nat. Sci. Phila., 2d ser., 1, p. 113.  
Smithville.

**Xenophora confusa**, Deshayes. Coquilles Fossiles Envir. de Paris, II, p. 243 as *Trochus*.  
Devil's Eye.

**Solarium Meekanum**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 385.  
Wheelock; Caldwell.

**S. Texanum**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 384.  
Wheelock.

**S. vespertinum**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 384.  
Caldwell.

\* **S. alveatum**, Conr. F. S. T., 2d ed., p. 47.  
*Solarium bilineatum*, Lea.—Contr., p. 119.  
Caldwell.

\* **Tuba (Littorina) antiquata**, Conr. F. S. T., 1st ed., p. 35.  
*Tuba alternata*, Lea.—Contr., p. 128.  
*T. striata*, Lea.—Contr., p. 128.  
*T. sulcata*, Lea.—Contr., p. 129. (Worn fragment.)  
Smithville.

**Scalaria staminea**, Conr. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 294.  
Smithville.

**Turritella nasuta**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 385.  
Smithville; Caldwell; Wheelock.

\* **Turritella carinata**, Lea. Contr., p. 129.  
? *Turritella monilifera*, H. C. Lea.—A. J. Science, XL, p. 97.  
Laredo; well at Palestine, Anderson Co.

\* **T. (Mesalia) Claibornensis**, Conr.  
Labelled specimen—description?  
San Antonio F.

\* **T. (Mesalia) obruta**, Conr. F. S. T., 2d ed., p. 40.  
*Turritella lineata*, Lea.—Contr., p. 130.

\* **T. (Mesalia) venusta**, Conr. F. S. T., 2d ed., p. 40.  
*Cerithium?* *striatum*, Lea.—Contr., p. 131.  
Caldwell.

**Eulima exilis**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 385.  
Caldwell.

**E. tenua**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 386.

**E. Texana**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 386.

\* **Pyramimitra costata**, Lea. Contr., p. 166, as *Terebra*.  
Smithville.

I believe that the group or genus to which Conrad, in 1865 (A. J. Conch., 1, p. 28), applied the name *Pyramimitra* has never been characterized. It may stand thus:

Shell elevated, terebriform, and having the general ornamentation of *Cerithium*, or of closely related forms—i. e., longitudinal cos-

tæ and revolving lines ; aperture comparatively short and contracted anteriorly into a twisted canal ; columella considerably twisted (but not reflected posteriorly, as in *Vertagus*), with two folds, the upper of which is the longest ; outer lip dentate interiorly.

\* *Cerithium Whitfieldi*, Heilpr. Proc. Acad. Nat. Sci. Phila., 1879, p. 216, as *Rostellaria*.  
McBee School.

*Cerithium Texanum*, Heilpr. Proc. Acad. Nat. Sci. Phila., 1890, p. 404.  
Station 5.

*Crepidula* sp ?  
Station 4.

\* *Cylichna galba*, Conr. F. S. T., 2d ed., p. 40.  
*Bulla St. Hilairii*, Lea.—Contr., p. 98.  
*B. Kelloggi*, Gabb.—Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 386.  
Smithville ; Caldwell ; Wheelock.

*Volvula minutissima*, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 386.  
Caldwell ; Wheelock.

*V. Conradiana*, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 386.  
Caldwell ; Wheelock.

\* *Helcion Leanus*, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 387.  
Caldwell.

This species is, I believe, Lea's *Hipponyx (Concholepas) pygmaea* (Contr., p. 95.)

*Dentalium minutistriatum*, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 386.  
Smithville ; Wheelock.

*Gadus subcoarctatus*, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 386, as *Ditrupa*.  
Wheelock.

### ACEPHALA.

\* *Corbula rugosa*, Lamarck. Anim. sans Vertèbr., 2d ed., VI, p. 141 ; Deshayes Anim. sans Vertèbr., Bassin de Paris, 1, p. 226.  
*Corbula oniscus*, Conr.—A. J. Science, XXIII, p. 341.  
*C. Murchisonii*, Lea.—Contr., p. 46.  
*C. gibbosa*, Lea. var.—Contr., p. 47.  
? *C. bicostata*, Nyst.  
Smithville ; St. Augustine Co.

*C. Texana*, Gabb. Jour. Acad. Nat. Sci. Phil., 2d. ser., IV, p. 387.  
Smithville.

*Tellina Mooreana*, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 387.  
Caldwell.

\* *Donax limatula*, Conr. F. S. T., 1st ed., p. 42.  
*Egeria Bucklandii*, Lea.—Contr., p. 52.  
*E. triangulata*, Lea.—Contr., p. 51.  
Colorado R.

**Cytherea Yoakumii**, Gabb. Proc. Acad. Nat. Sci. Phila., 1861, p. 370, (*Meretrix*.)

**Cytherea** sp.?  
Station 5.

\* **C. (Dione) discoidalis**, Conr. F. S. T., 1st ed., p. 36.

*Cytherea subcrassa*, Lea.—Contr., p. 67.

*C. Hatchetigbeensis*, Aldrich.—Bull. Geol. Surv. Alabama, 1, p. 39.  
Station 3, Ala.

\* **C. Nuttallii**, Conr. Jour. Acad. Nat. Sci. Phila., VII, p. 149.  
Station 1.

**C. Nuttalliopsis**, Heilpr. Proc. Acad. Nat. Sci. Phila., 1880, p. 270.  
Devil's Eye, Ala.

\* **Grateloupia Moulinsii**, Lea. Contr., p. 59, as *Cytheriopsis*.

*Cytherea Hydana*, Conr.—F. S. T., 1st ed., p. 36.

*Cytheriopsis Hydana*, Cour.—A. J. Conch., 1, p. 146.

**Protocardium Gambrium** Gabb. Proc. Acad. Nat. Sci. Phila., 1861, p. 371.

? *Cardium diversum*, Conr., from Vicksburg (Jour. Acad. Nat. Sci. Phila., 2d ser., 1, p. 122).

\* **Lucina alveata**, Conr. F. S. T., 1st ed., p. 40.

*Lucina lunata*, Lea.—Contr., p. 58.

Station 1.

\* ? **Mysia unguina** Conr.

*Astarte unguina*, Conr.—A. J. Science, XXIII, p. 342.

*Egeria rotunda*, Lea. Contr., p. 50.

Devil's Eye.

\* **Astarte tellinoides**, Conr. A. J. Science, XXIII, p. 342.

*Astarte Nicklinii*, Lea.—Contr. p., 61.

*A. sulcata*, Lea.—Contr., p. 62.

Smithville; Devil's Eye.

\* **Cardita planicosta**, Lamarek. Anim. sans Vertèbr., 2d ed., VI, p. 381; Deshayes, Anim. sans Vertèbr., Bassin de Paris, I, p. 756.

*Cardita densata*, Conr.—Jour. Acad. Nat. Sci. Phila., 2d ser., 1, p. 130.

*C. regia*, Conr.—A. J. Conch., 1, p. 8.

*Venericardia ascia*, Rogers.—Trans. Am. Philos. Soc. new ser., VI, p. 374.

et *V. Mooreana*, Conr. ?

Laredo; Lee; Co.; well at Palestine, Anderson Co.

**C. Mooreana**, Conr. A. J. Conch., III, p. 190, as *Venericardia*.

Lee Co.

I think it not unlikely that this species is only a varietal form of *C. planicosta*.

\* **C. alticosta**, Conr. A. J. Science, XXIII, p. 342.

*Cardita Blandingi*, Conr.—Jour. Acad. Nat. Sci. Phila., VI, p. 229.

*Venericardia transversa*, Lea.—Contr., p. 68.

Camp Disaster, Colorado River; St. Augustine Co.

**Cardita tetrica**, Conr.

Labelled specimen—description?

Smithville; Devil's Eye; Mississippi.

- \* **C. rotunda**, Lea. Contr., p. 70, as *Venericardia*.  
Smithville.

**Crassatella antestriata**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 388.  
Wheelock.

**C. Texana**, Heilpr. Proc. Acad. Nat. Sci. Phila., 1890, p. 406.

Smithville; McBee's School; near Alto; St. Augustine Co.

- \* **Nucula magnifica**, Conr. F. S. T., 1st ed., p. 37.  
*Nucula Sedgwickii*, Lea.—Contr., p. 79.  
Caldwell; Devil's Eye.

- \* **Leda bella**, Conr. A. J. Science, XXIII, p. 343.  
*Nucula plicata*, Lea.—Contr., p. 85.  
Smithville.

**Leda compsa**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 387.  
Caldwell.

- \* ? **Yoldia eborea**, Conr. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 295.  
Smithville.

**Pectunculus intercostatus**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 402.  
*Axinæa bellasculpta*, Conr.—Jour. Acad. Nat. Sci. Phila., 2d ser.,  
IV, p. 295.

- \* ? **Limopsis corbuloides**, Conr. F. S. T., 1st ed., p. 40, as *Pectunculus*.  
Devil's Eye.

**Limopsis pulcher**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 388, as  
*Noetia*.  
Wheelock; Caldwell.

**Arca (Cibota) Mississippensis**, Conr. Jour. Acad. Nat. Sci. Phila., 2d ser., IV,  
p. 125 (Vicksburg). Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. (Gabb.)  
*Arca lima* (juv.)  
Caldwell; Wheelock; near Alto.

**Modiola Texana**, Gabb. Proc. Acad. Nat. Sci. Phila., 1861, p. 371, as *Perna*.

**Pinna** sp.?  
Smithville.

**Pecten** sp.?  
Station 4.

- \* **P. Deshayesii**, Lea. Contr., p. 87.  
*Pecten Lyelli*, Lea.—Contr., p. 88.  
Burleson Shell B.; St. Augustine Co.

This species must not be confounded with *Pecten Deshayesii* of  
Nyst (Coqu. et Polyp. Foss., p. 288.)

- \* **P. (Camptonectes) Claibornensis**, Conr. Labelled specimen—description?  
St. Augustine Co.

**Plicatula filamentosa**, Conr. F. S. T., 1st ed., p. 38.  
*Plicatula Mantelli*, Lea.—Contr., p. 89.  
Near Alto.

**Spondylus** sp.?

- \* **Ostrea Alabamensis**, Lea. Contr., p. 91.

*Ostrea lingua-canis*, Lea.—Contr., p. 92.

*O. pincerna*, Lea.—Contr., p. 92.

*O. semilunata*, Lea.—Contr., p. 90.

Near Alto; Burleson Shell B.; St. Augustine Co.; Station 5; Station 1, below Carrizo; Smithville.

- \* **O. sellæformis**, Conr. F. S. T., 1st ed., p. 27.

*Ostrea radians*, Conr.—F. S. T., 1st ed., p. 27.

Smithville; Cherokee Co.; St. Augustine Co.

- \* **O. divaricata**, Lea. Contr., p. 91.

? *Ostrea flabellula*, Lamarck.

St. Augustine Co.

**Anomia ephippioides**, Gabb. Jour. Acad. Nat. Sci. Phila., 2d ser., IV, p. 388.

Station 2; McBee's; near Jacksonville; near Alto.

**Natica Dumblei**, n. sp. Plate XI, fig. 3.

Shell globular, smooth; whorls about five, moderately convex, and flattened slightly on the shoulder; suture impressed; aperture about two-thirds the length of shell; columellar surface flattened; umbilicus probably wanting.

Length (height), 2.3 inches; greatest width, about the same.

Station 2, Rio Grande; one specimen, filled with matrix.

This species seems closely allied to *Natica crassatina*, Lamarck, from the Paris Basin, and may prove to be that form. It is the largest of our Eocene *Naticas*; named after the State Geologist of Texas.

**Cerithium Texanum**, n. sp. Pl. XI, fig. 2.

Shell turreted, of the type of the well-known *Cerithium giganteum* and *C. Parisiense* of the Paris Basin, but more rapidly tapering; whorls? in number, smooth, moderately convex, and ornamented with obtuse, widely placed, and slightly diagonal ribs, which completely traverse the whorls; aperture?

Station 5, Rio Grande. Two fragments, lacking both apex and aperture, and measuring about one and a half inches in height. Although thus imperfect, I have thought best to describe the form, as it represents a well-recognized type from the European Eocene deposits which has not heretofore been generally recognized as occurring in the United States. The species is most nearly related to *Cerithium Parisiense*, of Deshayes, from which it differs in the rapidly-tapering spire.

**Clavella** (*Fusus* ?) *Penrosei*, n. sp. Pl. XI, fig. 1.

Shell large, turbate, with a greatly elongated canal; whorls scalariform, depressed, broadly flattened and slightly hollowed on the shoulder; no revolving lines, but wrinkles of growth faintly indicated; beak nearly (or fully?) the length of the spire, and twisted at about its middle somewhat as in *Fulgur*; canal narrow, tortuous in its upper half.

Length of full-grown specimen probably 8–10 inches.

Station 2, Rio Grande. Fragments of two specimens. The species is manifestly of the type to which *Fusus longcevus*, of Brander (Sowerby), belongs, although in that species the canal and columella are nearly straight; to the same type also belongs *Clavella humerosa*, of Conrad, from the Alabama Eocene. I cannot tell from my specimens whether a posterior canal is present or not, but the general similarity of the shell to the forms first referred to, in which such a canal is present, leads me to infer that it also exists in this species.

The species differs from *Fusus longcevus*, apart from the character presented by the columellar arcuation, in the broader and more depressed whorls, and in the very considerable inferior flattening of the body-whorl. I have compared it with Sowerby's type (Mineral Conchology, 1, p. 141, table LXIII), which is contained in the collections of the Academy.

Named after Dr. R. A. F. Penrose, Jr., to whom I owe most of the material which has been submitted to me for examination.

**Buccitriton scalatum**, n. sp. Pl. XI, fig. 5.

Shell small but robust; spire of about seven volutions, prominently turreted or scalariform; whorls only feebly convex, flattened on the shoulder and carrying a considerable number of sharp, diagonally directed ribs, which become obsolete on the body-whorl; revolving lines well-defined on the base of the body-whorl, elsewhere almost obsolete; the flat shoulders with two impressed lines, the upper of which is the most prominent. Aperture bucciniform (or columbellæform), about one-half the length of shell; outer lip thickened near the border.

Length, one-half inch.

Smithville, Bastrop Co.

This species differs from the *Buccitriton sagena*, of Conrad, in its high and flat shoulder, in the less prominence of the revolving lines, and in the obliteration of the longitudinal folds on the body-whorl.

**Ancillaria ancillops**, n. sp. Pl. XI, fig. 4.

Shell smooth, fusiform, having much the appearance of *Oliva Alabamensis*; whorls strongly convex, the first four or five prominently ribbed; sub-sutural band, with sigmoidal lines of growth, well marked; aperture broad, about one-half the length of shell; columellar surface markedly concave, with a pseud-umbilicus; basal notch profound.

Length somewhat more than an inch.

Smithville, Bastrop Co.

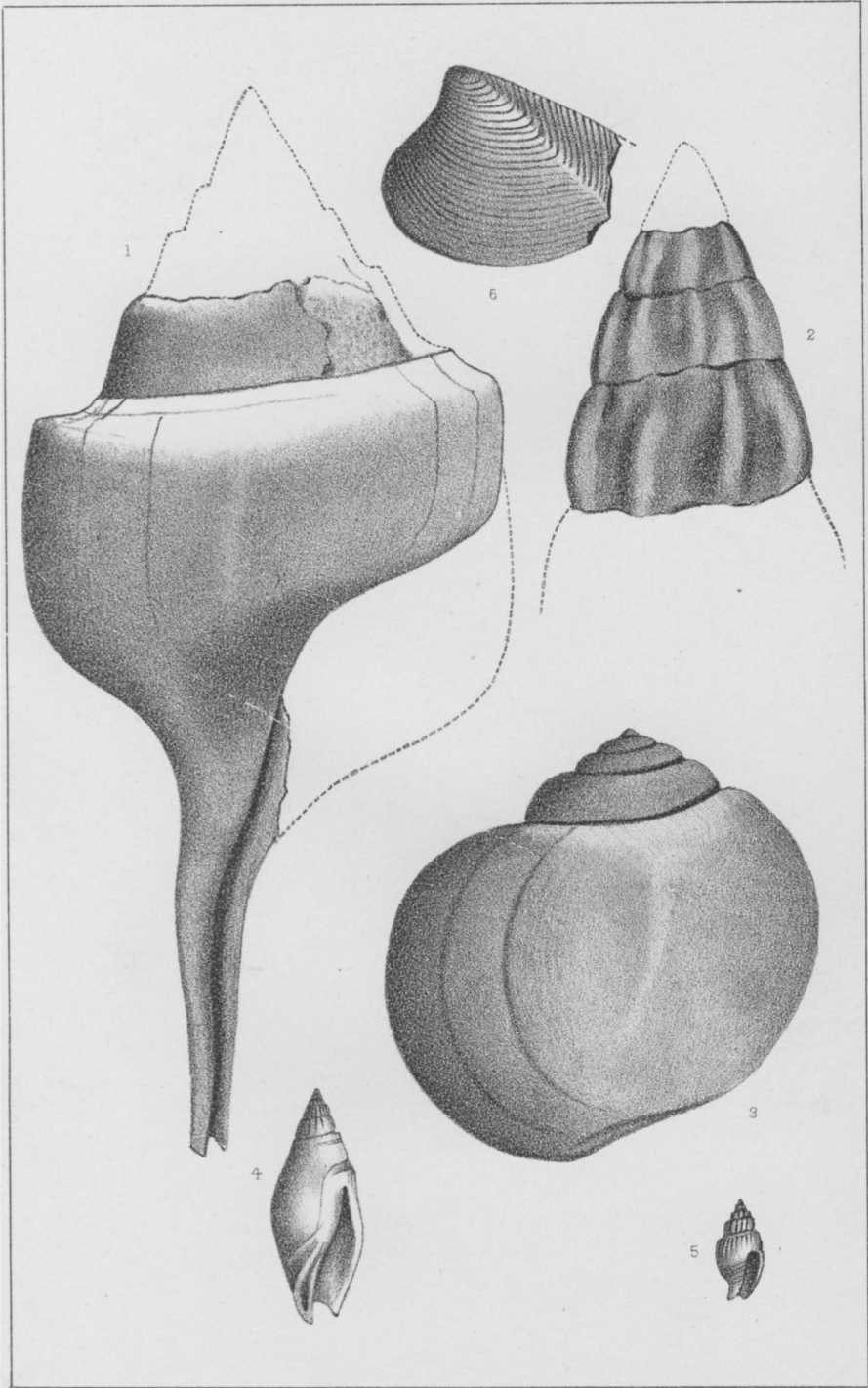
The reverse of this shell has much the aspect of *Oliva Alabamensis*.

**Crassatella Texana**, n. sp. Pl. XI, fig. 6.

Shell irregularly rhomboidal; valves prominently angulated posteriorly, with the post-umbonal slope broad and slightly concave; umbones prominent, well incurved; hinge powerful; exterior surface ornamented with strong and closely set lines of growth, which traverse the entire shell, becoming, however, less prominent on the umbonal slope.

Length of shell about an inch and a quarter, slightly exceeding the height. Smithville; McBee's School; near Alto; St. Augustine Co.

This species is comparatively more elongated than *Crassatella an-testriata*, of Gabb, which in some respects it closely resembles. The ornamentation, too, is carried completely across the shell, and is not restricted to the anterior moiety of the valves.



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